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ABSTRACT

This paper examines the effects of a ten-day seminar in economic education for elementary and secondary teachers in Texas. The course consisted of lecture-readings and of reviews and demonstrations of teaching materials in economics. In addition to teacher preparation, specific objectives of the seminar were to increase participants' economic understanding, interest in economics, and sophistication of economic opinions. Pre- and posttests in these areas were administered to the 41 educators who participated in the seminar. Results indicate that greater economic understanding was increased in the areas of the operation of competitive markets, the theory of the firm together with the operation of non-competitive markets, and governmental activity in the economy. Also, participants exhibited a tendency to move away from unsophisticated agreement with popular opinion concerning the economy to sophisticated disagreement. Finally, participants expressed increased interest in the field by ascertaining that the knowledge gained in the seminar was worth the cost. Items and participant responses to two questionnaires, the course outline, and a list of participants are included. (KC)

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AN ANALYSIS OF SHORT-TERM LEARNING IN ECONOMICS: THE CASE OF PARTICIPANT PERFORMANCE IN A FREE ENTERPRISE SYSTEM SEMINAR

by

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AN ANALYSIS OF SHORT-TERM LEARNING IN ECONOMICS: THE CASE OF PARTICIPANT PERFORMANCE IN A FREE ENTERPRISE SYSTEM SEMINAR

by

Lewis Karstensson*

> . . . every person who owes his life to civilized society, and who has enjoyed since his childhood all its very costly protections and advantages, should appear at reasonable intervals before a properly qualified jury to justify his existence, which should be summarily and painlessly terminated if he fails to justify it, and is either a positive nuisance or more trouble than he is worth.†
>
> George Bernard Shaw (1931)

This paper is an occasion to look in retrospect at the Free Enterprise System Seminar. The Seminar was a program in economic education conducted by the Center for Economic Education of North Texas State University in the Summer of 1978 for public school teachers in the Dallas-Fort Worth metroplex area. The program was intended to prepare teachers for the task of providing instruction on the American economy in their respective schools, instruction called for by the Texas Legislature in the Economic Education Act of 1977.[1] This paper, then, affords the opportunity to review the Seminar for the purpose of estimating the impact of the program

on the participating teachers. More particularly, I want to examine some rather specific measures of participant performance indicative of selected types of intended learning among the enrolled teachers during the Seminar. This glimpse at learning will provide an increment of information germane to the matter of whether the Seminar's existence was justified.

This examination of the Free Enterprise System Seminar has three principal parts. The first part attends the substance of the Seminar and its purposes. My central concerns, here, are to offer a brief description of the program and to specify, in both general and specific terms, the learning intended of the offering. The second part of the paper attends the performance of the participants in the Seminar. My intent, here, is to examine the performance of the program participants on tests selected to measure the learning intended of the program. And the third part of the paper is a concluding comment about the performance of the participants in the Seminar. My intention, here, is to state what appears to have been accomplished in the program toward the end of preparing the participating teachers for engaging in intelligent instruction about the American economy in their respective classrooms.

I

The Free Enterprise System Seminar was a rather intensive training program in economic education for elementary, middle, and secondary school teachers in the greater Dallas-Fort Worth area. The Seminar, in substance, had two central

components. The first component was a lecture-readings course in economics focusing on the nature and operation of the price mechanism, the economic machinery relied upon in the American economy to organize and carry out the processes of production and distribution.[2] The second component consisted of class sessions devoted to reviews and demonstrations of teaching materials in economics developed for use in a variety of curricular areas in the public schools.[3] The Seminar, thus, consisted of these two discrete activities blended into a schedule spanning a two-week period. In the ten-day program, approximately 33 hours of in-class time was allocated to the economics course with some 12 hours employed in materials review.[4] The instructor for the economics course was myself and that for the materials review was Dr. Patricia Moseley, Assistant Professor of Education at North Texas State University. The Seminar was conducted four times at various locations in the metroplex with a total of 41 educators participating in the offerings.[5]

The Seminar was designed to serve the general purpose of preparing teachers for the task of integrating instruction on the American economy into the curricula of their respective schools. This general purpose, it was thought, would be most appropriately served in a program concentrating on the more particular aims of providing teachers with an understanding of the nature and operation of the American economy and an awareness of instructional resources about the American economy

which were available and appropriate for use in their classrooms. The economics course component of the Seminar was, thus, intended to provide the participants with an understanding of the American economy while the materials review component was intended to enhance the participants' awareness of available instructional resources.

Beyond the general purpose, the Seminar was designed to serve a set of more specific objectives. The Seminar was intended to function to the ends of promoting increased levels of economic understanding, increased levels of economic opinion sophistication, and increased levels of interest in economics among the participants during the two-week program. Since this set of objectives is the operational basis for the present analysis of the effectiveness of the Seminar, further comment on the meaning of each objective is in order.

The property of economic understanding refers to an individual's stock of knowledge in the discipline of economics as measured by the person's performance on a test constructed to estimate this property. The Test of Understanding in College Economics--Part II, Form A (TUCE) was employed to measure the levels of economic understanding among the participants in the Seminar at the beginning and end of the program.[6] While there was not a perfect match between the economics considered in the Seminar and that examined by this test, the correspondence between the two

appeared sufficient to consider the test an appropriate instrument for estimating the progress of the participants on the property of economic understanding. The objective on economic understanding was that the participants turn in a significantly greater mean score performance on the posttest administration of TUCE than that on the pretest. This outcome would suggest the participants acquired a greater stock of knowledge in economics during the Seminar. The participants, in other words, will have gained a degree of familiarity with the language and analysis of economics germane to the nature and operation of the market economy.

The property of economic opinion sophistication refers to the extent to which an individual's opinions on issues related to economics are consistent with views having credibility in economic analysis. That people hold opinions reflective of their beliefs about the economic world in which they reside seems clear. Such opinions are expressed in reports of public opinion polls, in writings on editorial pages of newspapers, in evening news programs on television, in arguments at cocktail parties, and elsewhere. A notable feature of public opinion on economic matters is its frequent deviation from professional opinion on such matters. Some quite popularly held views on economic issues have little foundation in economic analysis. This circumstance suggests the existence of a continuum of opinion on economic matters ranging from a relatively unsophisticated realm of

uninformed economic folklore to a more sophisticated realm of studied economic opinion. The property of economic opinion sophistication was measured among the participants in the Seminar through the administration of the "Questionnaire on Economic Opinions" (QEO) at the beginning and end of the program.[7] The objective on economic opinion sophistication was that the participants turn in a significantly greater mean score performance on the posttest administration of QEO than that on the pretest. This outcome would suggest that the sets of opinions among the participants on selected economic issues shifted toward views having more credibility in economic analysis and away from those having less credibility during the Seminar.

The property of interest in economics refers to an individual's expressed taste for the subject of economics, the extent to which the individual finds the subject interesting or uninteresting. Economics seems to have acquired among noticeable numbers of people the reputation for being "the dismal science." Students frequently complain of its remote jargon, its difficult technical analyses, and its irrelevance to the real world. Sizeable numbers of students apparently leave their introductory courses viewing economics as a subject-matter that affords benefits which are not worth the costs of their acquisition. Economic knowledge is not worth the effort required to obtain it! This development, whatever its sources, is an unfortunate instance of counterproduction

in education. It, of course, encourages students to avoid economics in their education. And it ignores the fact that economics is a framework of ideas and analyses which affords a great deal of reasoned insight into the nature and operation of the world in which we live, our economic system, and the communities of which we are all a part. Economics courses must function to the end of generating interest in the subject--interest eminating from the recognition of the discipline's utility in understanding one's society--if we want people to view the subject as being something worthwhile rather than something akin to a plague. The property of interest in economics was, thus, measured among the participants in the Seminar through the administration of the "Questionnaire on Interest in Economics" (QIE) at the beginning and end of the program.[8] The objective on interest in economics was that the participants turn in a significantly greater mean score performance on the posttest administration of QIE than that on the pretest. This outcome would suggest that the participants acquired some greater interest in the discipline of economics during the Seminar.

The foregoing set of objectives concerning economic understanding, economic opinion sophistication, and interest in economics are the operational ends which the Seminar was designed to accomplish. Progress on these three dimensions would suggest that the Seminar participants became more knowledgeable in economics during the program--more knowledgeable

in their understanding of economic ideas, their opinions on issues related to economics, and their appreciation for the utility of economics in the acquisition of reasonable impressions about the economic world. Progress on these three fronts, in other words, would mean that the participant became a bit of an economist during the Seminar. And this development is certainly the first task to be accomplished in the preparation of public school teachers for engaging in meaningful instruction about the American economy in their classrooms.

II

Having examined the substance of the Seminar as well as its general purposes and specific objectives, I now want to turn to the analysis of the performance of the participants on the employed measures of economic understanding, economic opinion sophistication, and interest in economics. Preliminary to this analysis, however, it may be well to take a brief demographic look at the Seminar participants in order to obtain some idea of the nature of the population enrolled in the program.

A total of 41 educators participated in the four sessions of the Seminar. The participants came from the full range of levels within the public school system, 16 (39 percent) holding positions in elementary schools, 10 (24 percent) being occupied in middle schools, and 15 (37 percent) having employment in secondary schools. While the Dallas Independent School

District was the most heavily represented single school system in the program with 28 (68 percent) participants, other school districts, including those of Fort Worth, Garland, and Richardson, were also represented by the remaining 13 (32 percent) participants. The male/female composition of the population was 11 (27 percent) and 30 (73 percent) respectively, while the White/Black composition was just the reverse, 30 (73 percent) and 11 (27 percent). And the age of the participants ranged from 23 to 57 yeras around a mean of 36.34 years with a standard deviation of 10.20 years. Amid these factors reflecting the diversity of the group, the participants were at the same time nearly invariant in a couple other respects. Nearly all the participants were classroom teachers. Such teachers numbered 38 (93 percent) with the other 3 (7 percent) participants occupying non-teaching administrative positions. And a like number of participants, 38 (93 percent), had no training in economics prior to the Seminar with just 3 (7 percent) showing evidence of having had such training. In sum, the Seminar participants varied in terms of their levels of employment in the educational system, their employing school district, and their sex, ethnic background, and age. They were, also, however, rather commonly classroom teachers having no previous training in economics. The group, thus, was the sort for whom the Seminar was intended.

Consider, now, the performance of the Seminar participants on the selected measures of economic understanding,

economic opinion sophistication, and interest in economics. My initial analysis will center on an examination of the aggregate results obtained on the three measures. Subsequent analyses will, then, center on results of a disaggregate form obtained from each of the three measures.[9]

The aggregate results on the measures of economic understanding (TUCE), economic opinion sophistication (QEO), and interest in economics (QIE) appear in Table 1. These results show statistically significant positive mean gain scores on all three measures. The mean score increase of 2.78 for TUCE represents a 21 percent increase in economic understanding among the Seminar participants; the mean increase of 5.19 for the QEO reflects a 22 percent increase in economic opinion sophistication during the program; and the mean gain of 4.83 for the QIE indicates a 13 percent gain in interest in economics among the participants. These results are uniformly consistent with the set of operational objectives that the Seminar was designed to serve. The participants were different at the end of the program than they were at the beginning of the Seminar. They had a greater stock of economic understanding; their opinions about selected economic issues were altered in a manner exhibiting greater sophistication; and they had a heightened interest in the discipline of economics.[10]

These aggregate results are suggestive of three rather general performance developments among the participating teachers during the Seminar. The more particular meaning of

TABLE 1
THE FREE ENTERPRISE SYSTEM SEMINAR
PARTICIPANT PERFORMANCE ON TUCE, QEO, AND QIE

Test Instrument[a]	Pretest Performance M	(SD)	Posttest Performance M	(SD)	Difference M	(SD)	Computed t-Statistic[b]	Computed Probability	Statistical Interpretation
TUCE (33)	13.17	(4.22)	15.95	(3.79)	+2.78	(3.66)	+4.86	.00	Significant
QEO (12)	23.27	(3.88)	28.46	(4.25)	+5.19	(5.18)	+6.42	.00	Significant
QIE (10)	38.00	(5.42)	42.83	(4.48)	+4.83	(5.30)	+5.84	.00	Significant

[a]The number in parentheses is the number of test items on the instrument.

[b]The tabled t .05, 40 = +1.68.

each of these developments may be found in an examination of participant performance on selected disaggregate measures on component parts of the three employed measurement instruments. These disaggregate analyses reveal patterns of greater and lesser development among the Seminar participants.

The disaggregate results for the measure of economic understanding, TUCE, appear in Tables 2 and 3. The TUCE measures performance in six subject-matter content categories and performance at three levels of cognition. The content categories measured by TUCE together with the performance among the Seminar participants in each category appear in Table 2. The levels of cognition measured by TUCE along with the participants' performance on each of these levels appear in Table 3.

The results given in Table 2 indicate that significant gains were made among the participants in three of the six content categories: competitive markets; theory of the firm, markets, and anti-monopoly policy; and government and the allocation of resources. Insignificant gains were made in the remaining three content areas: factor markets and income distribution; international economics; and comparative economic systems. The development of greater economic understanding among the participants during the Seminar, therefore, was largely increased understanding in the areas of the operation of competitive markets, the theory of the firm together with the operation of non-competitive markets, and governmental activity in the economy.[11]

TABLE 2
THE FREE ENTERPRISE SYSTEM SEMINAR
PARTICIPANT PERFORMANCE ON TUCE BY CONTENT CATEGORY

Content Category[a]	Pretest Performance M	(SD)	Posttest Performance M	(SD)	Difference M	(SD)	Computed t-Statistic[b]	Computed Probability	Statistical Interpretation
1. Competitive markets (6)	2.88	(1.40)	3.61	(1.36)	+0.73	(1.96)	+2.39	.02	Significant
2. Theory of the firm, markets, & anti-monopoly policy (10)	3.68	(1.59)	4.83	(1.64)	+1.15	(2.01)	+3.66	.00	Significant
3. Factor markets & income Distribution (5)	2.41	(0.97)	2.56	(1.18)	+0.15	(1.30)	+0.72	.47	Not Significant
4. Government & the allocation of resources (3)	0.93	(0.91)	1.46	(0.81)	+0.53	(0.78)	+4.42	.00	Significant
5. International economics (6)	1.90	(1.11)	1.93	(0.98)	+0.03	(1.13)	+0.14	.89	Not Significant
6. Comparative Economic Systems (3)	1.37	(1.09)	1.51	(0.98)	+0.14	(1.33)	+0.70	.49	Not Significant

[a]The number in parentheses is the number of test items in the category.

[b]The tabled t .05, 40 = +1.68.

TABLE 3
THE FREE ENTERPRISE SYSTEM SEMINAR
PARTICIPANT PERFORMANCE ON TUCE BY COGNITIVE LEVEL

Cognitive Level[a]	Pretest Performance M	(SD)	Posttest Performance M	(SD)	Difference M	(SD)	Computed t-Statistic[b]	Computed Probability	Statistical Interpretation
1. Recognition & understanding (12)	4.61	(2.05)	5.93	(1.66)	+1.32	(2.07)	+4.08	.00	Significant
2. Simple application (11)	4.78	(1.89)	5.51	(1.82)	+0.73	(1.88)	+2.49	.01	Significant
3. Complex application (10)	3.78	(1.27)	4.46	(1.64)	+0.68	(1.60)	+2.73	.01	Significant

[a]The number in parentheses is the number of test items in the cognitive level.

[b]The tabled $t_{.05, 40} = +1.68$.

The results given in Table 3 indicate that significant gains were made among the participants on all three levels of cognition: recognition and understanding, simple application, and complex application. The development of greater economic understanding among the participants, thus, represented an expansion in the ability of the participants to accurately recognize the meaning of economic concepts and to appropriately apply economic concepts in the analysis of more-or-less unfamiliar problems.

The disaggregate results for the measure of economic opinion sophistication, QEO, appear in Table 4. Given, here are comparisons of the means of response weights obtained for each item on the instrument. The items, the twelve opinion statements contained in the QEO are listed together with the participants' response distributions in Appendix D to this paper. Increased opinion sophistication for a given item is indicated by a significant positive shift in the item response mean from pretest to posttest. The results appearing in Table 4 show that mean shifts of this sort were found for eight items: items 2, 3, 4, 6, 7, 9, 10, and 11. In the case of each of these items, there was a tendency among the participants during the Seminar to move away from the unsophisticated position of agreement and toward the sophisticated position of disagreement. Such mean shifts were not found in the remaining four items: items 1, 5, 8, 12. The results for these items suggest the absense of clear opinion shifts among the Seminar participants.[12]

TABLE 4
THE FREE ENTERPRISE SYSTEM SEMINAR
PARTICIPANT PERFORMANCE ON QEO BY ITEM

Item[a]	Pretest Performance M	(SD)	Posttest Performance M	(SD)	Difference M	(SD)	Computed t-Statistic[b]	Computed Probability	Statistical Interpretation
1.	2.22	(0.88)	2.07	(0.98)	-0.15	(0.91)	-1.03	.31	Not Significant
2.	1.37	(0.66)	1.93	(0.96)	+0.56	(1.14)	+3.15	.00	Significant
3.	2.02	(0.99)	2.54	(0.84)	+0.52	(1.31)	+2.51	.02	Significant
4.	1.39	(0.74)	2.63	(0.77)	+1.24	(1.02)	+7.81	.00	Significant
5.	1.61	(0.74)	1.68	(0.88)	+0.07	(0.75)	+0.62	.54	Not Significant
6.	1.78	(0.94)	2.76	(0.62)	+0.98	(1.11)	+5.65	.00	Significant
7.	2.54	(0.84)	2.93	(0.35)	+0.39	(0.77)	+3.24	.00	Significant
8.	2.63	(0.62)	2.44	(0.81)	-0.19	(0.95)	-1.31	.20	Not Significant
9.	2.51	(0.84)	2.93	(0.35)	+0.42	(0.89)	+2.97	.00	Significant
10.	2.15	(0.91)	2.78	(0.57)	+0.63	(1.02)	+3.99	.00	Significant
11.	1.68	(0.85)	2.27	(0.87)	+0.59	(0.77)	+4.84	.00	Significant
12.	1.37	(0.77)	1.51	(0.87)	+0.14	(0.65)	+1.43	.16	Not Significant

[a]The QEO items are listed in Appendix D of this paper.

[b]The tabled t .05, 40 = +1.68.

While space and time limitations preclude close examination of each of the noted opinion shifts in this paper, a look at one such shift will afford an illustration of a specific instance of economic opinion sophistication formation. The remaining instances of opinion development, of course, can be examined by the reader by looking at the item data provided in Table 4 and Appendix D.

Consider, though, for the moment, item 4 on the QEO noted in Appendix D. The opinion statement reads, "People are frequently irrational in their economic behavior." The statement is an expression of a rather widely held belief in the general population, the belief that people more than occasionally exhibit behavior severely lacking, if not altogether void, in rationality. The belief has its foundation in the daily diet of irrationality given us in the news. We are told that we are impulsive in our spending habits. More than this, we are, in our spending, governed as much by bandwagon, snobery, and conspicuous consumption motives as by motives about the real utility of our purchases. Furthermore, our spending patterns are controlled, to a considerable degree, by a mafia of Madison Avenue ad men who are up on, if not ahead of, the latest mind-bending techniques in psychology. And what do we buy with our money? Lots of our dollars go for things that have little human benefit like hoola-hoops, yo-yos, and electric knives. And many of our hard-earned dollars are spent on things that are positively harmful, like food that is poisonous

or lacking in nutritional value, flammable clothing, toys that cause bodily injury, and automobiles that are unsafe at any speed. So goes the news. From this set of data it is difficult to conclude that human behavior is anything but irrational! This scenario of irrationality, however, seems to me to be nonsense. It is nonsense because it lacks a clear conception of what constitutes rationality with which observed behavior can be compared. Without a clear meaning of what is rational and what is not, it is folly to consider a particular variety of behavior as being one or the other. Economics, of course, affords some clarity on what constitutes rationality in the theory of consumer demand. It consists of individuals behaving in the purposeful pursuit of individual satisfaction--that is, individuals continuously employing their limited resources in the acquisition of commodities and services to the end of maximizing their peculiar levels of satisfaction. If one finds this notion of rationality conventional to economics acceptable and creditable as an account of how people actually behave, then we find in economics a rather forceful argument for the rationality of human behavior.[13] Economic opinion sophistication formation with reference to this item 4 is to be found in a shift in opinion away from the relatively uninformed position of agreement with the statement and toward a more informed position of disagreement about the statement. This development appears to have been present to a rather marked

extent among the Seminar participants as is suggested in the data in Table 4 and that in Appendix D. When they were surveyed on this item at the beginning of the program, 76 percent of the participants were found to be in agreement with the statement and 15 percent in disagreement. At the end of the Seminar the agreement group was found to have fallen to 17 percent with the disagreement group having grown to 80 percent. The pretest and posttest results for item 4, taken together, indicate that the Seminar participants in increasing numbers during the program gravitated to the position of rejecting the view that people are frequently irrational in their behavior. And this is a specific aspect of the observed development of increased economic opinion sophistication among the participants during the Seminar.[14]

Finally, the disaggregate results for the measures of interest in economics, QIE, appear in Table 5. Provided, here, are comparisons of the means of response weights obtained for each item on this instrument. The items, the ten interest questions, contained in the QIE are listed together with the participants' response distributions in Appendix E of this paper. Increased interest in economics for a given item is suggested by a significant positive shift in the item response mean from pretest to posttest. The results appearing in Table 4 show that mean shifts of this type were found for eight items: items 1, 2, 3, 4, 6, 7, 8, and 10. An instance of increased interest in economics among the participants

TABLE 5
THE FREE ENTERPRISE SYSTEM SEMINAR
PARTICIPANT PERFORMANCE ON QIE BY ITEM

Item[a]	Pretest Performance M	(SD)	Posttest Performance M	(SD)	Difference M	(SD)	Computed t-Statistic[b]	Computed Probability	Statistical Interpretation
1.	3.56	(0.98)	4.22	(0.76)	+0.66	(1.11)	+3.80	.00	Significant
2.	3.29	(1.12)	4.24	(0.54)	+0.95	(1.18)	+5.15	.00	Significant
3.	3.05	(1.14)	3.73	(0.84)	+0.68	(1.08)	+4.04	.00	Significant
4.	4.00	(0.84)	4.73	(0.45)	+0.73	(0.90)	+5.23	.00	Significant
5.	4.61	(0.49)	4.42	(0.63)	-0.19	(0.64)	-1.95	.06	Not Significant
6.	3.73	(0.90)	4.07	(0.76)	+0.34	(1.02)	+2.15	.04	Significant
7.	3.12	(0.95)	3.58	(0.97)	+0.46	(0.95)	+3.12	.00	Significant
8.	4.20	(0.64)	4.78	(0.48)	+0.58	(0.67)	+5.60	.00	Significant
9.	4.34	(0.66)	4.42	(0.89)	+0.08	(0.93)	+0.50	.62	Not Significant
10.	4.10	(0.83)	4.63	(0.54)	+0.53	(0.87)	+3.95	.00	Significant

[a]The QIE items are listed in Appendix E of this paper.

[b]The tabled $t_{.05,\ 40} = +1.68$.

during the Seminar is suggested in the results for each of these items. Similar mean shifts were not found in the remaining two items: items 5 and 9. The results for these items indicate the absense of clear increases in interest among the Seminar participants during the program.[15]

Again, I shall not attempt to review the results for each item on the QIE. The reader may do this by examining the data in Table 5 and that in Appendix E. However, a look at the results for one of the items will afford an illustration of a specific instance of the development of interest in economics among the participants during the Seminar.

Consider item 4 on the QIE noted in Appendix E. The interest question reads, "Is the knowledge which you obtain from studying economics worth the time and effort that you put into studying the subject?" The question, in other words, asks the respondent if the quantity of utility associated with an increment of economic knowledge is sufficient to cover the costs of its acquisition. At the beginning of the Seminar, the participants responded in the following manner: 78 percent responded favorably in the affirmative; 20 percent responded neutrally being undecided or indifferent on the matter; and 2 percent responded unfavorably in the negative. The relatively high percentage of favorable responses to the question on the pretest seems to be a strange result since, as we noted earlier, 93 percent of the

participants indicated that they had never before studied economics. This favorable response is perhaps more an expression of a wishful expectation on the part of the participants and less of a conclusion predicated on experience.[16] This paradoxical result notwithstanding, the participants responded to the question even more favorably at the conclusion of the Seminar. All of the participants at the end of the program responded affirmatively to the question. The pretest and posttest results for this item, taken together, indicate that the Seminar participants in increasing numbers during the program gravitated to the view that economic knowledge is worth its acquisition costs. And this is a specific facet of the observed development of increased interest in economics among the participants during the Seminar.

III

What can be concluded from this analysis of the performance of the participants of the Free Enterprise System Seminar? The examined results, for the most part, indicate that the population of participants underwent something of a transformation during the time period when the Seminar was conducted. At the conclusion of the program the participants differed from what they had been at program's inception. How did they differ? First, they had a greater stock of economic understanding. They acquired some familiarity with the language and analysis of economics. They, acquired, in particular, a greater understanding of the

nature and operation of the market mechanism, the instrument relied upon in the American economy to guide production and distribution. Second, the participants' sets of opinions about the economic world were altered to a considerable extent, in a manner reflecting greater sophistication. They, in other words, tended to adopt views about the economic world having some greater credibility in economics. And third, they acquired a degree of increased interest in economics. They apparently found the two-week sojourn into economics worthwhile. In sum, the average Seminar participant did become a bit of an economist during the Seminar.[17] And this means that the teacher, at the Seminar's end, was somewhat better prepared to consider the matter of the American economy with public school students.

FOOTNOTES

*Assistant Professor of Economic Education, North Texas State University. The program examined in this report was conducted in cooperation with the Foundation for Quality Education of Dallas, the Private Enterprise Education Project of Dallas, and the Region 10 and 11 Education Service Centers of Richardson and Fort Worth respectively. The author gratefully acknowledges the support of these institutions.

†Bernard Shaw, Platform and Pulpit (Compiled and Edited by Dan H. Laurence; New York: Hill and Wang, 1961), p. 233. This rather explicit definition of accountability appears in a radio address delivered by Shaw in London on October 11, 1931 titled, "Look, You Boob! A Little Talk on America."

[1]General and Special Laws of the State of Texas, 65th Legislature, pp. 1004-1005. The Economic Education Act of 1977 calls for "the development of a comprehensive economic education program for all children in grades 1 through 12 in the public schools of this state. It is the legislative intent that this program shall teach a positive understanding of the American economy, how it functions, and how the individual can function effectively within our economy as a consumer, worker, and voter. While dealing with economic problems and issues, the program shall teach the positive values of a basically private-enterprise economy which underscores the worth and dignity of the individual."

[2]This course was an abbreviated introduction to the principles of microeconomics. An outline of the topics considered in this course is given in Appendix A of this paper. A detailed description of the substance and method of this course is found in Lewis Karstensson, "A Syllabus for a Course of Study in the Free Enterprise System" (Unpublished Course Syllabus; Denton, Texas: The Center for Economic Education of North Texas State University, 1978).

[3]A wide variety of instructional resources were examined in these materials review sessions. Among these resources were instructional materials eminating

FOOTNOTES (CONTINUED)

from various industrial and governmental sources. Particular emphasis, however, was given to an examination of materials distributed by the Joint Council on Economic Education including the new Master Curriculum Guide in Economics for the Nation's Schools. Emphasis, also, was given to the availability and use of local community resources in economic education.

[4]A detailed Seminar Schedule is given in Appendix B of this paper.

[5]The four sessions of the Seminar were held to afford broad metroplex access to the program. The first session was held at Skyline High School in Dallas from June 5-16 for 14 participants; the second session was held at the Region 10 Education Service Center in Richardson from June 19-30 for 6 participants; the third session was held at the NTSU Dallas Center from July 10-21 for 17 participants; and the fourth session was held at the Texas College of Osteopathic Medicine in Fort Worth from July 24-August 4 for 4 participants.

The 41 educators participating in one of the four sessions of the Seminar are noted in the Roster of Participants given in Appendix C of this paper. The Dallas ISD personnel were subsidized for their participation in the Seminar through a grant from the Foundation for Quality Education. The subsidy totaled $148.50 for each participant which covered $53.50 in tuition, $20.00 in materials fees, and a stipend of $75.00. Participants from other school districts were not so subsidized and, therefore, bore the costs of participation themselves.

[6]The Committee for a College-Level Test of Economic Understanding, Test of Understanding in College Economics--Part II, Form A (New York: The Psychological Corporation, 1968). This instrument is a 33-item multiple-choice test of understanding in college-level principles of micro-economics. The test examines performance in six subject-matter content categories. These content areas are (1) competitive markets, (2) theory of the firm, markets, and anti-monopoly policy, (3) factor markets and income distribution, (4) government and the allocation of resources, (5) international economics, and (6) comparative economic systems. The test, furthermore, examines performance in three categories of cognition. These more-or-less discrete forms of performance are (1) re-cognition and understanding, (2) simple application, and

FOOTNOTES (CONTINUED)

(3) complex application. The test, thus, contains questions that require understanding of concepts in economics in definitional and application terms. A detailed description of this test is given in The Committee for a College--Level Test of Economic Understanding, Manual: Test of Understanding in College Economics (New York: The Psychological Corporation, 1968).

[7]The "Questionnaire on Economic Opinions" (QEO) is an instrument constructed by myself to measure the property of economic opinion sophistication among students. The instrument contains 12 unsophisticated opinion statements each of which the respondent is asked to evaluate and respond with "Agree," or "Undecided," or "Disagree." A Likert-type summated rating procedure, using the weights of 1 for "Agree," 2 for "Undecided," and 3 for "Disagree," is employed to generate the score scale running from 12, denoting adherence to unsophisticated opinions, to 36, denoting adherence to sophisticated opinions. The QEO opinion statements together with the Seminar participants' responses to each statement are given in Appendix D to this paper.

The property of economic opinion sophistication has been a matter of some previous concern to others. A convincing argument that the economics of non-economists is largely unsophisticated is forwarded in George J. Stigler, "The Case, if Any, for Economic Literacy," The Journal of Economic Education, 1 (Spring 1970), 77-84. Then an interesting examination of unsophisticated opinions on several specific economic issues is provided in Delbert A. Snider, Economic Myth and Reality (Englewood Cliffs, New Jersey: Prentice-Hall, 1965). And an effort to empirically define and measure the property of economic opinion sophistication is reviewed in William R. Mann and Daniel R. Fusfeld, "Attitude Sophistication and Effective Teaching in Economics," The Journal of Economic Education, 1 (Spring 1970), 111-129.

[8]The "Questionnaire on Interest in Economics" (QIE) is an instrument constructed by myself to measure the property of interest in economics among students. The instrument contains 10 questions about the subject of economics each of which the respondent is asked to evaluate and indicate one of five responses ranging from strong disinterest to strong interest. A Likert-type summated rating procedure, using the weights of 1 through 5 for

FOOTNOTES (CONTINUED)

the responses running from extreme disinterest to extreme interest, is employed to generate the score scale running from 10, denoting substantial disinterest in the subject, to 50, denoting substantial interest in the subject. The QIE questions together with the Seminar participants' responses to each question are given in Appendix E to this paper.

The property of interest in economics is a matter which I have attended in previous work. An analysis of the validity and reliability of an instrument similar to the one employed here is provided in Lewis Karstensson, A Study on the Validity and Reliability of a Questionnaire on Student Attitude Toward Economics (Boulder, Colorado: ERIC Clearinghouse for Social Studies/Social Science Education, 1974). And a comment on this interest variable as it relates to learning in economics is offered in Lewis Karstensson and Richard K. Vedder, "A Note on Attitude as a Factor in Learning Economics," The Journal of Economic Education, 5 (Spring 1974), 109-111.

[9]The t-test for dependent samples discussed in Robert B. Clarke, Arthur P. Coladarci, and John Caffrey, Statistical Reasoning and Procedures (Columbus, Ohio: Charles E. Merrill, 1965), pp. 232-245 was used in the mean comparisons reported in this paper. Each comparison was a one-tail test with the level of significance set at .05 and the degrees of freedom equal to N-1. The null hypothesis,

$$H_0: \mu_2-\mu_1 \leq 0,$$

was tested against the alternative hypothesis,

$$H_1: \mu_2-\mu_1 > 0,$$

through the computation of Student's t-Statistic using the following formula:

$$t=\bar{X}_2-\bar{X}_1-0 \;/\; s_{\bar{X}_1-\bar{X}_2},$$

where the term in the numerator is the observed difference between the means and the term in the denominator is the standard error of the difference between means. In each case this computed t-statistic was compared to the tabled t-statistic,

$$t_{.05,N-1df}.$$

The null hypothesis was accepted when the computed

FOOTNOTES (CONTINUED)

statistic was less than the tabled statistic; conversely, the null hypothesis was rejected and the alternative hypothesis accepted when the computed statistic was equal to or greater than the tabled statistic.

[10]The observed mean posttest score of 15.95 on the TUCE, aside from being significantly greater than than on the pretest, is not especially impressive. It is not uncommon for undergraduate students taking principles of microeconomics to turn in mean scores on the same test in the neighborhood of 19 or 20 correct out of the 33 items. This discrepancy, I think, reflects differences between the Seminar and the test with respect to subject-matter content and levels of cognitive development. The lower score obtained in the Seminar is perhaps, also, partly attributible to the fact that the course material was covered in two weeks at a hurried pace, a situation substantially different from the ordinary 15-week semester or even the 10-week quarter. This discrepancy, however, does not alter the central finding that the participants gained in economic understanding during the Seminar.

[11]The pattern of results obtained in the TUCE content categories rather accurately reflects what subject-matter was emphasized in the Seminar and what material was considered to a lesser extent in the program. The operation of competitive markets, the theory of the firm, and the functions of government in the economy were, indeed, topics given considerable emphasis in the Seminar. Conversely, the areas of comparative systems and international economics were given, respectively, little and no consideration in the program as the performance results indicate. Rather surprisingly, though, the operation of resource markets was considered in the Seminar, but with little apparent consequence on the TUCE results.

[12]It is interesting to note in Appendix D that a clear majority of the Seminar participants at the beginning of the program responded in agreement or disagreement to each item on the QEO. In each case a clear minority of participants chose the undecided response. The participants clearly came into the Seminar having already formed opinions on the issues raised in the items. Under these circumstances, instruction aimed at opinion sophistication formation involves the reformation of wayward views and/or the reinforcement of reasonable impressions.

FOOTNOTES (CONTINUED)

[13]Professor Tibor Scitovsky of Stanford University noted the difference between economists and others on the question of rationality in the passage: "Economics, having originated in the age of reason, has adopted the rationality of man as one of its basic postulates. Today, in the age of unreason, psychologists and psychoanalysts have gained a lot of understanding of the dark, irrational forces that motivate men; but while the general puplic has readily accepted their interpretation of human motivation, the economist -- perhaps alone among the social scientists -- still clings to the assumption of rationality." Tibor Skitovsky, "Are Men Rational or Economists Wrong?" in Paul A. David and Melvin W. Reder (Eds.), Nations and Households in Economic Growth (New York: Academic Press, 1974), p. 223. The economist's view of the rationality of behavior is capably presented in Richard B. McKenzie and Gordon Tullock, The New World of Economics: Explorations into the Human Experience (Homewood, Illinois: Richard D. Irwin, 1975).

[14]Economic opinion sophistication development, as this illustration suggests, focuses on a dimension of learning that seems quite important, but is rarely examined. The dimension is the effect of instructional efforts in economics on the sets of opinions -- that is, the broad views or general impressions -- that students hold about the economic world in which they reside.

[15]It is apparent from the pretest results on the QIE appearing in Appendix E that few of the Seminar participants had heard the rumor that economics is "the dismal science," something best left unattended. In the case of every item, either a plurality or a majority of the participants responded favorably to the question asked, which suggests that if they had heard the rumor, they chose, at least at this point in time, not to believe it.

[16]On second thought, the strong favorable response to item 4 on the QIE pretest may not be so strange. No doubt, the marginal utility of a zero quantity of knowledge in economics is zero. But the marginal cost of that quantity is likewise zero. The favorable response seems to be superior to the other two possible responses in expressing this equilibrium.

[17]The performance of the Seminar participants on the selected measures of economic understanding, economic

FOOTNOTES (CONTINUED)

opinion sophistication, and interest in economics, thus, was found to be largely consistent with the Seminar objectives focusing on these properties. The extent to which this performance occurred because of the Seminar -- this, of course, is unknown -- the program's existence on production grounds seems justified.

APPENDIX A
THE FREE ENTERPRISE SYSTEM SEMINAR
COURSE TOPIC SCHEDULE

The principal topics, subtopics, and cases examined in the economics course component of the program are listed here in the order in which they were considered.

Topic Number	Topic, Subtopics, and Case
1.	The World of Economics
	1.1 The Matter of Economics
	1.2 Economic Analysis
	Case: An Economic Analysis of Happiness
2.	The Dilemma of Scarcity
	2.1 The Condition of Scarcity
	2.2 The Consequences of Scarcity
	Case: The Culprit Behind the Rising Price
3.	The Pursuit of Satisfaction
	3.1 The Economics of Choice
	3.2 Applied Choice Theory
	Case: Beneath Irrational Behavior
4.	The Market Economy
	4.1 The Economic System
	4.2 The Market Mechanism
	Case: In Defense of the Ticket Scalper
5.	Demand in the Product Market
	5.1 Utility Maximization
	5.2 The Law of Demand
	Case: The Myth of the Hapless Consumer
6.	Supply in the Product Market
	6.1 Profit Maximization
	6.2 The Law of Supply
	Case: The Value of Profit and Loss

APPENDIX A (CONTINUED)

Topic Number	Topic, Subtopics, and Case
7.	Exchange in the Product Market
	7.1 The Static Market
	7.2 The Dynamic Market
	Case: The Price of Two All-Beef Patties
8.	The Resource Market
	8.1 Demand and Supply Revisited
	8.2 Employment and Income Determination
	Case: The Poverty of Minimum Wage Legislation
9.	The Public Sector of the Economy
	9.1 The Public Good
	9.2 Governmental Activity
	Case: The Social Imbalance Controversy
	Economics and the American Community

APPENDIX B
THE FREE ENTERPRISE SYSTEM SEMINAR
SEMINAR SCHEDULE

Each of the four sessions of the Free Enterprise System Seminar conformed to the following schedule of activities. Reference is made in the schedule to lecture, survey, tutorial, and focus sessions. A lecture session was a period devoted to instruction on a designated course topic; a survey session was a brief period of time used to test participant understanding of a designated course topic; a tutorial session was time set aside for assisting individual participants wanting further instruction on a designated course topic or some other technical assistance; and a focus session was a period allocated to consideration of instructional resources in economics appropriate for use in elementary, middle, and secondary schools.

Day 1: Monday

Morning Session (9:00 -12:00)
- Welcome Message
- Seminar Orientation
- Pretest Administration

Afternoon Session (1:00 - 4:00)
- The Beginning

APPENDIX B (CONTINUED)

Day 2: Tuesday

Morning Session (9:00 - 12:00)
Lecture 1: Course Topic No. 1
The World of Economics

Afternoon Session (1:00 - 4:00)
Lecture 2: Course Topic No. 2
The Dilemma of Scarcity

Day 3: Wednesday

Morning Session (9:00 - 12:00)
Lecture 3: Course Topic No. 3
The Pursuit of Satisfaction
Survey 1: Course Topic No. 1
The World of Economics
Survey 2: Course Topic No. 2
The Dilemma of Scarcity

Afternoon Session (1:00 - 4:00)
Lecture 4: Course Topic No. 4
The Market Economy

Day 4: Thursday

Morning Session (9:00 - 12:00)
Lecture 5: Course Topic No. 5
Demand in the Product Market
Survey 3: Course Topic No. 3
The Pursuit of Satisfaction
Survey 4: Course Topic No. 4
The Market Economy

Afternoon Session (1:00 - 4:00)
Lecture 5: Course Topic No. 5 (continued)
Demand in the Product Market
Tutorial 1: Course Topic No. 1
The World of Economics
Tutorial 2: Course Topic No. 2
The Dilemma of Scarcity

APPENDIX B (CONTINUED)

Day 5: Friday

Morning Session (9:00 - 12:00)
Lecture 6: Course Topic No. 6
Supply in the Product Market
Survey 5: Course Topic No. 5
Demand in the Product Market

Afternoon Session (1:00 - 4:00)
Focus 1: Economics in the Curriculum
Tutorial 3: Course Topic No. 3
The Pursuit of Satisfaction
Tutorial 4: Course Topic No. 4
The Market Economy

Day 6: Monday

Morning Session (9:00 - 12:00)
Lecture 7: Course Topic No. 7
Exchange in the Product Market
Survey 6: Course Topic No. 6
Supply in the Product Market

Afternoon Session (1:00 - 4:00)
Focus 2: Resources for Teaching Economics
Tutorial 5: Course Topic No. 5
Demand in the Product Market

Day 7: Tuesday

Morning Session (9:00 - 12:00)
Lecture 8: Course Topic No. 8
The Resource Market
Survey 7: Course Topic No. 7
Exchange in the Product Market

Afternoon Session (1:00 - 4:00)
Lecture 8: Course Topic No. 8 (continued)
The Resource Market
Tutorial 6: Course Topic No. 6
Supply in the Product Market

APPENDIX B (CONTINUED)

Day 8: Wednesday

Morning Session (9:00 - 12:00)
Lecture 9: Course Topic No. 9
The Public Sector of the Economy
Survey 8: Course Topic No. 8
The Resource Market

Afternoon Session (1:00 - 4:00)
Focus 3: Resources for Teaching Economics
Tutorial 7: Course Topic No. 7
Exchange in the Product Market

Day 9: Thursday

Morning Session (9:00 - 12:00)
Survey 9: Course Topic No. 9
The Public Sector of the Economy
Focus 4: Resources for Teaching Economics

Afternoon Session (1:00 - 4:00)
A Comment: Economics and the American Community
Tutorial 8: Course Topic No. 8
The Resource Market
Tutorial 9: Course Topic No. 9
The Public Sector of the Economy

Day 10: Friday

Morning Session (9:00 - 12:00)
Posttest Administration
Course Final Examination

Afternoon Session (1:00 - 4:00)
The End

APPENDIX C
THE FREE ENTERPRISE SYSTEM SEMINAR
ROSTER OF PARTICIPANTS

The participants in The Free Enterprise System Seminar are listed here in alphabetical order. The school and school district affiliation of the participant are noted as is the specific session of the Seminar attended by the participant.

	Name / School / School District	Seminar Session
1.	Anderson, Bettye J. District Office Dallas ISD	1
2.	Archer, Nathan G. T. W. Brown Middle School Dallas ISD	3
3.	Banks, Berna D. H. S. Thompson Elementary School Dallas ISD	1
4.	Baumann, Carol C. R. C. Buckner Elementary School Dallas ISD	3
5.	Bell, Mary E. Jefferson Davis Elementary School Dallas ISD	1
6.	Buice, Deborah R. South Garland High School Garland ISD	2
7.	Burrell, Martin W. South Oak Cliff High School Dallas ISD	3
8.	Carr, Virginia N. Metropolitan East Middle School Dallas ISD	3

APPENDIX C (CONTINUED)

	Name / School / School District	Seminar Session
9.	Chapman, Juliann G. Sunset High School Dallas ISD	1
10.	Cleveland, Joyce M. South Oak Cliff High School Dallas ISD	1
11.	Cook, Phillip P. Woodrow Wilson High School Dallas ISD	3
12.	Dossey, Ernest E. Weatherford Middle School Weatherford ISD	4
13.	Durham, Billy L. Robert T. Hill Middle School Dallas ISD	3
14.	Greco, Dominick N. Prosper Elementary School Prosper ISD	2
15.	Hartnett, Betty J William Lipscomb Elementary School Dallas ISD	1
16.	Haynie, Edward G. W. T. White High School Dallas ISD	3
17.	Housewright, Wayne C. Southwest High School Fort Worth ISD	4
18.	Hubbard, Paula A. Bayless Elementary School Dallas ISD	1
19.	Joiner, Linda A. Nathaniel Hawthorne Elementary School Dallas ISD	3

APPENDIX C (CONTINUED)

	Name / School / School District	Seminar Session
20.	Lehmberg, Robbie A. Forest Oak Middle School Fort Worth ISD	4
21.	Marcus, Stephanie District Office Richardson ISD	3
22.	McClung, Pat D. T. C. Marsh Middle School Dallas ISD	3
23.	McDaniel, Jo M. Daniel Webster Elementary School Dallas ISD	1
24.	McHan, Lue Gaston Middle School Dallas ISD	3
25.	Mitchell, Janet Phyllis Wheatley Elementary School Dallas ISD	1
26.	Patrick, Barbara L. Arlington Park Elementary School Dallas ISD	1
27.	Pinkard, Sue D. Skyline High School Dallas ISD	3
28.	Rabago, Maria R. Stevens Park Elementary School Dallas ISD	3
29.	Rhoades, Dena L. W. H. Adamson High School Dallas ISD	1
30.	Shaw, Joann A. Forest Oak Middle School Fort Worth ISD	4

APPENDIX C (CONTINUED)

	Name / School / School District	Seminar Session
31.	Speak, Lynda O. Richardson Terrace Elementary School Richardson ISD	2
32.	Stewart, Martha L. Palmer Elementary School Palmer ISD	2
33.	Stewart, Ruby J. Metropolitan East Middle School Dallas ISD	3
34.	Strain, Jimmie F. Mt. View College Dallas Community College District	3
35.	Taylor, Annetta E. Pinkston High School Dallas ISD	1
36.	Tenenberg, Janice F. Skyview Elementary School Richardson ISD	2
37.	Thompson, Sudie T. C. Marsh Middle School Dallas ISD	3
38.	Tiemann, Paul R. North Garland High School Garland ISD	2
39.	Tobias, Helen G. Phyllis Wheatley Elementary School Dallas ISD	3
40.	Weeks, Roger D. Eastfield College Dallas Community College District	1
41.	Zimmermann, Barbara H. Lincoln High School Dallas ISD	1

APPENDIX D
THE FREE ENTERPRISE SYSTEM SEMINAR
ITEMS AND PARTICIPANT RESPONSE DISTRIBUTIONS ON QEO

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
1. Economics is the science of successful business practices. 1. Agree. 2. Undecided. 3. Disagree.	A: 29% U: 19% D: 51%	A: 44% U: 05% D: 51%	A: +15% U: -14% D: 00%
2. Good theories about the behavior of people may not indicate how people actually behave in the real world. 1. Agree. 2. Undecided. 3. Disagree.	A: 73% U: 17% D: 10%	A: 49% U: 10% D: 42%	A: -24% U: -07% D: +32%
3. The condition of scarcity -- the circumstance of not-enoughness -- is a new problem with which people in the United States must learn to contend. 1. Agree. 2. Undecided. 3. Disagree.	A: 46% U: 05% D: 49%	A: 22% U: 02% D: 76%	A: -24% U: -03% D: +27%
4. People are frequently irrational in their economic behavior. 1. Agree. 2. Undecided. 3. Disagree.	A: 76% U: 10% D: 15%	A: 17% U: 02% D: 80%	A: -59% U: -08% D: +65%

APPENDIX D (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
5. Capitalism is superior to socialism as a form of economic organization. 1. Agree. 2. Undecided. 3. Disagree.	A: 54% U: 32% D: 15%	A: 58% U: 15% D: 27%	A: +04% U: -17% D: +12%
6. The general welfare of a given group of people is hindered by individuals within the group pursuing their own interests. 1. Agree. 2. Undecided. 3. Disagree.	A: 56% U: 10% D: 34%	A: 10% U: 05% D: 85%	A: -46% U: -05% D: +51%
7. Consumers have very little real power in the American economy. 1. Agree. 2. Undecided. 3. Disagree.	A: 22% U: 02% D: 76%	A: 02% U: 02% D: 95%	A: -20% U: 00% D: +19%
8. Pure profit is basically unearned income for a business. 1. Agree. 2. Undecided. 3. Disagree.	A: 07% U: 22% D: 71%	A: 20% U: 17% D: 63%	A: +13% U: -05% D: -08%

APPENDIX D (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
9. Buyers in the American economy have very little influence in the process of determining commodity prices. 1. Agree. 2. Undecided. 3. Disagree.	A: 22% U: 05% D: 73%	A: 02% U: 02% D: 95%	A: -20% U: -03% D: +22%
10. Minimum wage legislation is beneficial to people residing in poverty. 1. Agree. 2. Undecided. 3. Disagree.	A: 34% U: 17% D: 49%	A: 07% U: 07% D: 85%	A: -27% U: -10% D: +36%
11. The advertising establishment in the United States controls the buying behavior of Americans. 1. Agree. 2. Undecided. 3. Disagree.	A: 56% U: 20% D: 24%	A: 27% U: 20% D: 54%	A: -29% U: 00% D: +30%
12. Human life is priceless. 1. Agree. 2. Undecided. 3. Disagree.	A: 80% U: 02% D: 17%	A: 73% U: 02% D: 24%	A: -07% U: 00% D: +07%

[a]The response distribution categories of A, U, and D have the following meanings: A is agree; U is undecided; and D is disgaree.

APPENDIX E
THE FREE ENTERPRISE SYSTEM SEMINAR
ITEMS AND PARTICIPANT RESPONSE DISTRIBUTIONS ON QIE

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
1. How would you rank economics in comparison to other subjects you have studied on the basis of your personal interest in the subject? 1. One of the least interesting subjects. 2. Among the less interesting subjects. 3. Undecided or indifferent. 4. Among the more interesting subjects. 5. One of the most interesting subjects.	U: 15% N: 27% F: 58%	U: 05% N: 05% F: 90%	U: -10% N: -22% F: +32%
2. How would you rank economics in comparison to other subjects you have studied on the basis of its contribution to your general education? 1. One of the least important subjects. 2. Among the less important subjects. 3. Undecided or indifferent. 4. Among the more important subjects. 5. One of the most important subjects.	U: 32% N: 20% F: 49%	U: 00% N: 05% F: 95%	U: -32% N: -15% F: +46%

APPENDIX E (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
3. How would you rank economics in comparison to other subjects you have studied on the basis of its contribution to your occupational preparation? 1. One of the least important subjects. 2. Among the less important subjects. 3. Undecided or indifferent. 4. Among the more important subjects. 5. One of the most important subjects.	U: 34% N: 24% F: 41%	U: 12% N: 15% F: 73%	U: -22% N: -09% F: +32%
4. Is the knowledge which you obtain from studying economics worth the time and effort that you put into studying the subject? 1. Definitely no. 2. Mostly no. 3. Undecided or indifferent. 4. Mostly yes. 5. Definitely yes.	U: 02% N: 20% F: 78%	U: 00% N: 00% F: 100%	U: -02% N: -20% F: +22%

APPENDIX E (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
5. To what extent are you interested in learning (or learning more) about economics? 1. Not at all interested. 2. Not too interested. 3. Undecided or indifferent. 4. Somewhat interested. 5. Very interested.	U: 00% N: 00% F: 100%	U: 00% N: 07% F: 93%	U: 00% N: +07% F: -07%
6. To what extent are you interested in taking additional course work in economics? 1. Not at all interested. 2. Not too interested. 3. Undecided or indifferent. 4. Somewhat interested. 5. Very interested.	U: 07% N: 34% F: 59%	U: 05% N: 10% F: 85%	U: -02% N: -24% F: +26%
7. Do you intend to take additional course work in economics within the next two years? 1. Definitely no. 2. Probably no. 3. Undecided or indifferent. 4. Probably yes. 5. Definitely yes.	U: 32% N: 32% F: 37%	U: 20% N: 17% F: 63%	U: -12% N: -15% F: +26%

APPENDIX E (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
8. What is your present inclination toward recommending a course in economics to a fellow student who has never studied the subject? 1. Definitely would not recommend course. 2. Probably would not recommend course. 3. Undecided or indifferent. 4. Probably would recommend course. 5. Definitely would recommend course.	U: 02% N: 05% F: 93%	U: 00% N: 02% F: 98%	U: -02% N: -03% F: +05%
9. Do you agree or disagree with the following statement? "Economic understanding is essential if we are to meet our responsibilities as citizens and as participants in a basically private enterprise economy." 1. Strongly disagree. 2. Disagree. 3. Undecided or indifferent. 4. Agree. 5. Strongly agree.	U: 00% N: 10% F: 90%	U: 05% N: 05% F: 90%	U: +05% N: -05% F: 00%

APPENDIX E (CONTINUED)

Item	Pretest Response Distribution[a]	Posttest Response Distribution[a]	Difference[a]
10. How would you describe your present attitude toward the subject of economics? 1. Very unfavorable. 2. Mostly unfavorable. 3. Undecided or indifferent. 4. Mostly favorable. 5. Very favorable.	U: 02% N: 15% F: 83%	U: 00% N: 02% F: 98%	U: -02% N: -13% F: +15%

[a]The response distribution categories of U, N, and F have the following meanings: U is an unfavorable response category which includes responses 1 and 2 for each item; N is a neutral response category which includes response 3 for each item; and F is a favorable response category which includes responses 4 and 5 for each item.

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EDUCATION

North Texas State University

The Center for Economic Education of North Texas State University is committed to the effort of making formal instruction in the principles of economics more accessible to the broad community in North Central Texas. The pursuit of greater accessibility with respect to instruction in economics--that is, effecting increases in the quantity and quality of instruction in economics--that is, effecting increases in the quantity and quality of instruction in economics at the introductory course levels in public schools, community colleges, and universities--is viewed as the principal means of elevating popular levels of understanding of the economic system in the United States and of current economic problems. The specific efforts engaged in by the Center to effect this increased accessibility involve (1) the conduct of teacher training programs, (2) the development of instructional material, (3) the conduct of research in economic education, (4) the maintenance of an instructional resource center, and (5) the performance of technical assistance services on matters pertaining to instruction in economics. The Center for Economic Education, a unit of the Institute for Applied Economics of the School of Community Service of North Texas State University, functions in close cooperation with the Department of Economics of North Texas State University, and is affiliated with the Texas Council on Economic Education as well as the national Joint Council on Economic Education.

The facilities of the Center for Economic Education are located in Oak Street Hall on the campus of North Texas State University in Denton, Texas. Further information on any of the programs of the Center may be obtained by writing or calling:

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